

REMARKS

Upon entry of the present amendment, claim 14 will have been canceled and claim 23 will have been submitted for consideration. In view of the combination of features recited in Applicants claim 23, Applicants respectfully request reconsideration and withdrawal of the outstanding objections and rejections together with an indication of the allowability of claim 23 (and dependent claim 22). Such action is respectfully requested and is now believed to be appropriate and proper.

In the outstanding Official Action, the Examiner objected to claim 14. The Examiner noted several informalities therein. By the present Response, and as noted above, claim 14 has been canceled. Claim 23 does not contain the informalities noted by the Examiner. Accordingly, reconsideration and withdrawal of the objection to the claim is respectfully requested.

In the outstanding Official Action, the Examiner rejected claims 14 and 22 under 35 U.S.C. § 102(e) as being anticipated by WEI et al. (U.S. Patent No. 6,251,722). Applicants respectfully traverse the above rejection and submit that it is inappropriate.

As noted above, Applicants have canceled claim 14. Accordingly, Applicants will discuss the shortcomings of the WEI et al. reference with respect to newly submitted claim 23.

Applicants invention, as disclosed in the present application, relates to a method for producing a trench capacitor for use in a semiconductor memory cell. The method includes forming a trench (for example, 2) in a semiconductor substrate, providing a first conductive capacitor plate (e.g., 60) in the trench, and providing a dielectric layer (e.g., 70) as a capacitor dielectric on the first conductive capacitor plate. Applicants invention

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further includes providing a first metal electrode layer (e.g., 100) on the dielectric layer inside the trench as a second conductive capacitor plate, filling the trench with a conductive filling material (e.g., 80), and etching back the conductive filling material to the upper side of the first conductive capacitor plate. Applicants invention further includes forming an isolation collar (e.g., 5") in an upper region of the trench and providing a second metal electrode layer (e.g., 100') in the upper region of the trench such that the second metal electrode layer is in electrical connection with the first metal electrode layer. Further, according to the present invention, at least one of the dielectric layer, the first conductive capacitor plate, the first metal electrode layer and the second metal electrode layer is applied by one of an ALD, an ALCVD and a CVD method.

It is respectfully submitted that the combination of features recited in Applicants claim 23 is not taught, disclosed nor rendered obvious by the WIE et al. reference relied upon by the Examiner.

In contrast to the above-noted features of the Applicants invention, WEI et al. discloses a second polysilicon layer 361 on dielectric layer 351 inside the trench, in direct contrast to the explicitly recited subject matter of claim 23. WIE et al. discloses a trench capacitor which is completely filled with two polysilicon layers 361, 362 which are not metal electrode layers, in direct contrast to the features of the present invention. The trench capacitor of WEI et al. provides a much higher resistance compared to the trench capacitor of the present invention.

Applicants note the Examiner's comments in the outstanding Official Action regarding Applicants election of embodiment 1 and that Fig. 4 is a different embodiment from Fig. 1. In this regard, Applicants respectfully request that the Examiner permit

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Applicants to shift their election to now claim the combination of features defined in Fig.

4. Applicants submit that the Examiner exercise his discretion and permit Applicants to shift elected embodiment in view of the clear basis set forth above by which the newly submitted claim 23 distinguishes over the features of the cited reference. Since claim 23 is thus shown to be allowable, Applicants submit that a shift in election, although not usually permitted, be permitted in the present application.

Applicants further note that the status of the present application is After Final Rejection and that Applicants are ordinarily not permitted, as a matter of right, to amend an application once a Final Rejection has issued. Nevertheless, in the present situation, Applicants submit that entry of the present amendment is appropriate and proper. In particular, Applicants submit that the present amendment merely clarifies the features of the claim but does not raise any new issues requiring further consideration or search.

Accordingly, entry of the present amendment, reconsideration of the outstanding objection and rejection and an indication of the allowability of all the claims pending herein, is respectfully requested in due course.

SUMMARY AND CONCLUSION

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so. Applicants have submitted a new claim instead of a previously pending and elected claim. Applicants have shown how the newly submitted claim clearly defines over the reference relied upon by the Examiner. Applicants have pointed out the shortcomings of the reference with respect to the combination of features recited in Applicants claim. Applicants have further reviewed the features of Applicants claim and have noted the shortcomings of the reference with respect thereto.

Accordingly, Applicants have provided a clear evidentiary basis supporting the patentability of the claims in the present application and respectfully request an indication to such effect in due course.

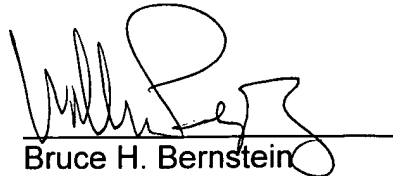
Applicants have requested the Examiner to approve entry of the present amendment as well as to exercise his discretion and permit the Applicants to shift elected embodiments. Such action is believed to be, and has been shown to be, appropriate in the present case.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

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Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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February 16, 2005
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